

We claim:

1. Method of operating a dishwasher with a central control unit, by measuring the turbidity of the rinsing liquid and establishing the course of the program as a function of the turbidity of the rinsing liquid, wherein that in a pre-rinse operation the following input values are transmitted from a sensor system to the control unit:

5                   a. the current temperature of the rinsing liquid and/or the inlet temperature of the fresh water,

                 b. the turbidity of the rinsing liquid, separately where the lower spray plane and the upper spray plane are operated in an alternating manner or where the spray planes are operated together with a continuously operating spray system,

10               c. the foam load in the rinsing liquid,

                 d. the increase in the turbidity and

                 e. the length of time of the rinsing operation until the increase in the turbidity has achieved the value of zero,

in that the following output values are derived from these input variables by the central 15 control unit:

                 f. a value of the turbidity of the rinsing liquid in %,

                 g. a value of the particle load in the water in %,

                 h. a value for the solubility of the soiling of the dishes in %,

                 i. a value for the necessary cleaning temperature in °C and

20               j. a value for the necessary length of the rinsing operation, and

in that the further course of the program, with reference to the number and parameters of the part program steps, is established by the control unit as a function of these output values.

2. Method according to claim 1, wherein that the pre-rinse operation is undertaken with or without heating up the rinsing liquid.
3. Method according to claim 2, wherein that a turbidity difference value is derived from the turbidity values of the lower spray plane and the upper spray plane, which turbidity difference value is compared by the control unit with preset limit values in order to make decisions for the continuation of the rinse program.
4. Method according to one of claim 3, wherein that a measurement for the stability of the pressure of the circulating pump is derived from the measured values for the turbidity and foam formation in the rinsing liquid, wherein, depending on the water output,
  - a) small volumes of water are added,
  - 5 b) the volume of water is increased up to a maximum value or
  - c) a complete water change is effected as well as
  - d) part program steps are repeated, andthe filter shaft or the drain shaft is rinsed before the next part program step.
5. Method according to one of claim 4, wherein that the value for the solubility of the soiling of the dishes is derived from the water temperature of the rinsing liquid and from the length of time of the rinsing process until the increase in the turbidity of the rinsing fluid has achieved the value zero, the solubility being easy where the water temperature is low and the length of time of the rinsing process is short, and the solubility being difficult where the water temperature is high and the length of time of the rinsing process is long, and in that

these values are compared with preset limit values and, as a function thereof, the necessary further part program steps are established.

6. Method according to claim 5, wherein that the cleaning temperature for the rinsing liquid in the further part programs is established as a function of the turbidity of the rinsing liquid and the determined solubility of the soiling of the dishes, a low cleaning temperature being selected for the rinsing liquid where turbidity is low and solubility easy, and a high cleaning temperature being selected for the rinsing liquid where turbidity is high and solubility difficult.

7. Method according to claim 6, wherein that the length of time selected for the cleaning process is short with low turbidity of the rinsing liquid and easy solubility of the soiling of the dishes, and the length of time selected for the cleaning process is long with high turbidity of the rinsing liquid and difficult solubility of the soiling of the dishes.

8. Method according to claim 7, wherein that the length of time of the cleaning process and/or the temperature of the cleaning process is (are) continuously controlled between a minimum value and a maximum value as a function of the turbidity of the rinsing liquid and the solubility of the soiling of the dishes.

9. Method according to one of claim 8, wherein that a fuzzy set is used in the central control unit for deriving the output values from the input values.

10. Method according to claim 9, wherein that the fuzzy rules, i.e. the logical interlinking of the individual linguistic terms, are freely programmed in a freely

programmable memory of the control unit in order to adapt the fuzzy set to changes in the rinse program of the dishwasher.

11. Method according to claim 9, wherein that the access conditions of the fuzzy inputs and/or the output conditions of the fuzzy outputs or the linguistic terms of the fuzzy outputs are modified in order to adapt the course of the program.